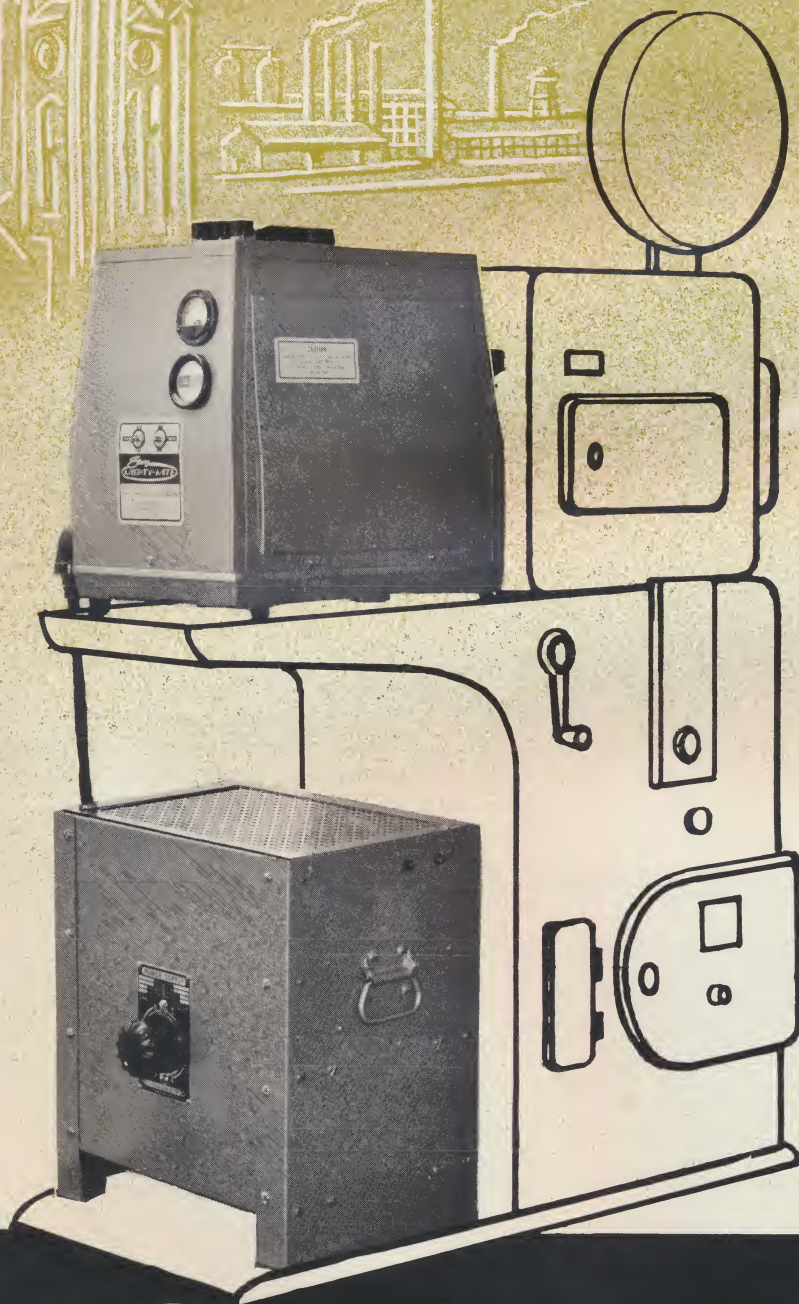


SINGLE PHASE 2100  
THREE PHASE 2400

# *The* **MIGHTY MITE**



The ideal small, but mighty  
1600 watt XENON arc light source

**DESIGNED FOR USE . . .**

by **SCHOOLS** and  
**INDUSTRY** for

**16 MM PROJECTION**

with projectors presently using car-  
bon arcs and on some projectors  
using incandescent light sources.

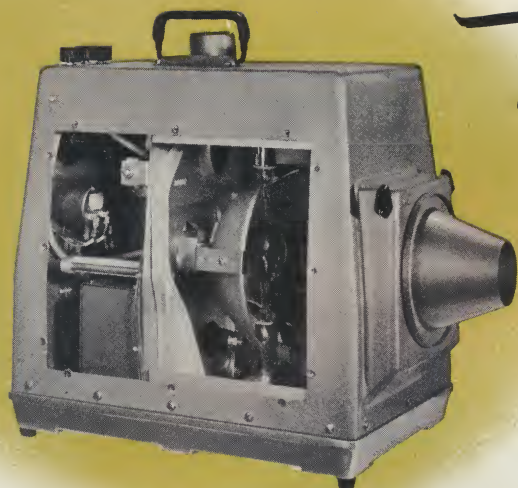
THE *Strong* ELECTRIC CORPORATION

87 CITY PARK AVENUE • P. O. BOX 1003 • TOLEDO, OHIO 43601



A SUBSIDIARY OF GENERAL  
PRECISION EQUIPMENT  
CORPORATION





# The MIGHTY

## TYPE 80,000

**THE MIGHTY MITE** will project the maximum amount of light 16MM film can withstand. Screen illumination is approximately eight times the light obtained from incandescent sources and at least twice the amount obtained from the newer, lower powered, enclosed arc sources.

**THE MIGHTY MITE IS CONVENIENT TO INSTALL** (utilizing adapter kits, if necessary) on all 16mm projectors normally requiring carbon arc light sources and some projectors equipped with incandescent light sources. After the Mighty Mite has been installed, adjusted and properly focused, the projectionist need only press a switch to obtain a consistent repeatable flood of projected light.

**THERE ARE NO MOVING PARTS** to wear out and the reflector will not deteriorate due to dirt and soot; a common maintenance problem with carbon arc light sources. The operational cost per hour of a Xenon light source is approximately the same as that of a carbon arc light source projecting the same amount of light.

**LAMPHOUSE CONTAINS** internal interlock safety switch to disconnect power in the lamphouse if access door is removed; igniter designed with a protective device to eliminate sound system interference and provide correct starting voltage; internal exhaust blower; a special Tuf-Cold interference coated reflector to reduce heat at the aperture; a dowsers that can be operated from either side

of lamphouse; power and ignition switches; a DC ammeter to indicate bulb operating current; a meter to record hours of bulb operation; and reflector focusing controls.

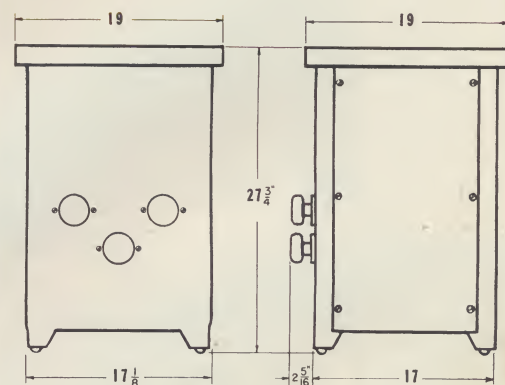
**LIGHT SOURCE** - The Xenon bulb is a quartz envelope containing two tungsten electrodes in a pressurized Xenon gas atmosphere. The bulb produces a steady pure white light with daylight color quality (color temperature 5800° Kelvin) resulting in excellent rendition of both black and white and color film. The bulb is guaranteed on a prorated basis for 1500 hours with a life expectancy of over 2000 hours.

**WE RECOMMEND** the lamphouse be vented to outside atmosphere to exhaust the Ozone and heat that is generated by all Xenon bulbs. For installations where outside venting is not possible, a Strong type 80949 Ozone Filter is available as an accessory and is easily attached to the vent stack of the lamphouse. The filtered air is exhausted into the projection booth relatively pure.

**TWO POWER SUPPLY MODELS** are offered for use with the Mighty Mite lamp; one for single phase, and one for three phase AC input service. Both are designed with a heavy duty transformer and a silicon diode rectifier element to provide correct DC voltage and amperage for optimum Xenon bulb operation. The three phase silicon rectifying element is fan cooled and employs the "down-draft" principle, drawing the cooling air in from under the edge of the top cover, thus eliminating the possibility of foreign matter being drawn from the floor into the unit and blocking the flow of air. The single phase rectifier employs natural draft ventilation. Exterior 8-position tap switches are provided to adjust for the desired arc current. A utility outlet (5 ampere, 115v AC) for supplying power to the projector and/or amplifier is furnished on the single phase power supply.

### Three Phase A.C. Transformer - Silicon Rectifier

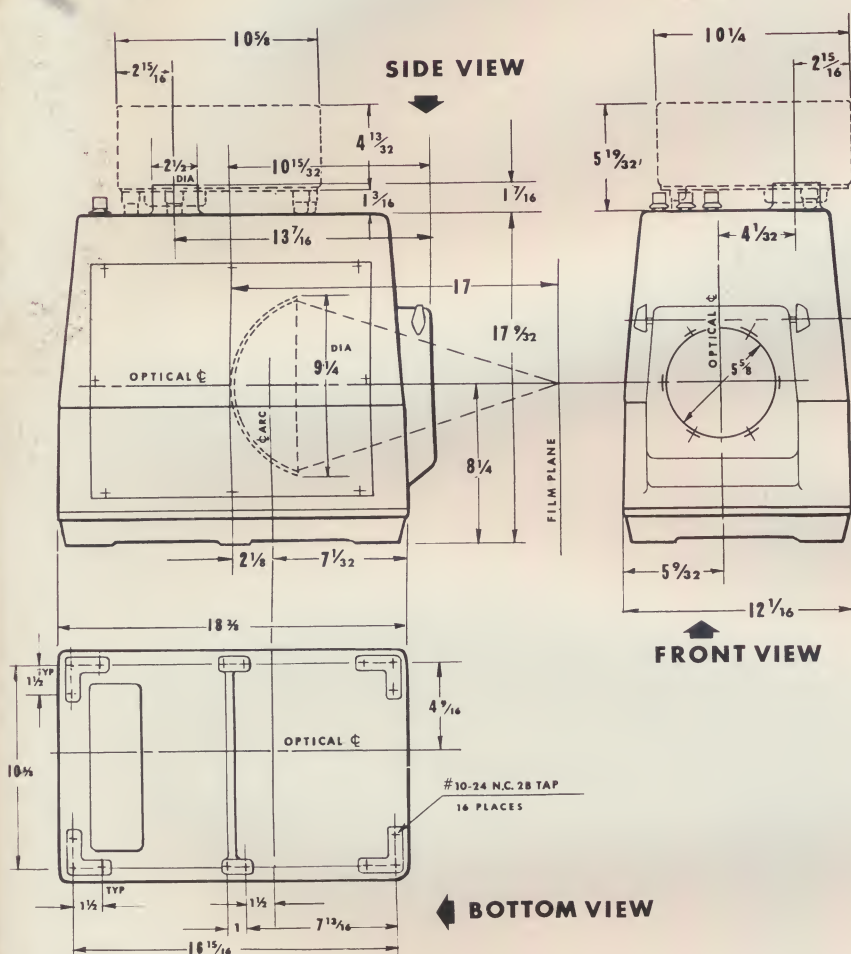
|                    | 450 WATT             | 900 WATT              | 1600 WATT             |
|--------------------|----------------------|-----------------------|-----------------------|
| POWER TO RECTIFIER | A.C. VOLTS 220       | A.C. VOLTS 220        | A.C. VOLTS 220        |
|                    | AMPS - 7.2 per phase | AMPS - 12.4 per phase | AMPS - 13.5 per phase |
|                    | KVA 2.8              | KVA 4.9               | KVA 5.4               |
|                    | CYCLES 60            | CYCLES 60             | CYCLES 60             |
|                    | PHASE 3              | PHASE 3               | PHASE 3               |
| OUTPUT TO LAMP     | D.C. VOLTS 18-24     | D.C. VOLTS 20-26      | D.C. VOLTS 24-28      |
|                    | D.C. AMPERES 20-28   | D.C. AMPERES 40-48    | D.C. AMPERES 60-70    |
| SHIPPING WEIGHT    | 265 POUNDS           | 270 POUNDS            | 280 POUNDS            |





# Y MITE by Strong

## 450 • 900 • 1600 watt XENON Arc Lamphouse



### 450 WATT

Rated D.C. Arc Current ..... 25 Amperes  
 Rated D.C. Arc Voltage ..... 20 Volts  
 Reflector ..... 9 1/4" diameter Silvered  
 Lumens at Rated Current (no shutter) ..... 1600  
 Shipping Weight ..... 80 Pounds

### 900 WATT

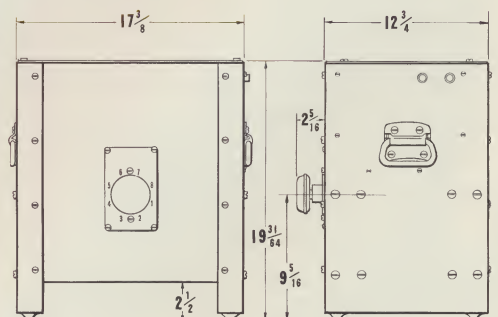
Rated D.C. Arc Current ..... 45 Amperes  
 Rated D.C. Arc Voltage ..... 22 Volts  
 Reflector ..... 9 1/4" diameter "Cold" Type  
 Lumens at Rated Current (no shutter) ..... 2700  
 Shipping Weight ..... 80 Pounds

### 1600 WATT

Rated D.C. Arc Current ..... 65 Amperes  
 Rated D.C. Arc Voltage ..... 26 Volts  
 Reflector ..... 9 1/4" diameter "Cold" Type  
 Lumens at Rated Current (no shutter) ..... 5000  
 Shipping Weight ..... 80 Pounds

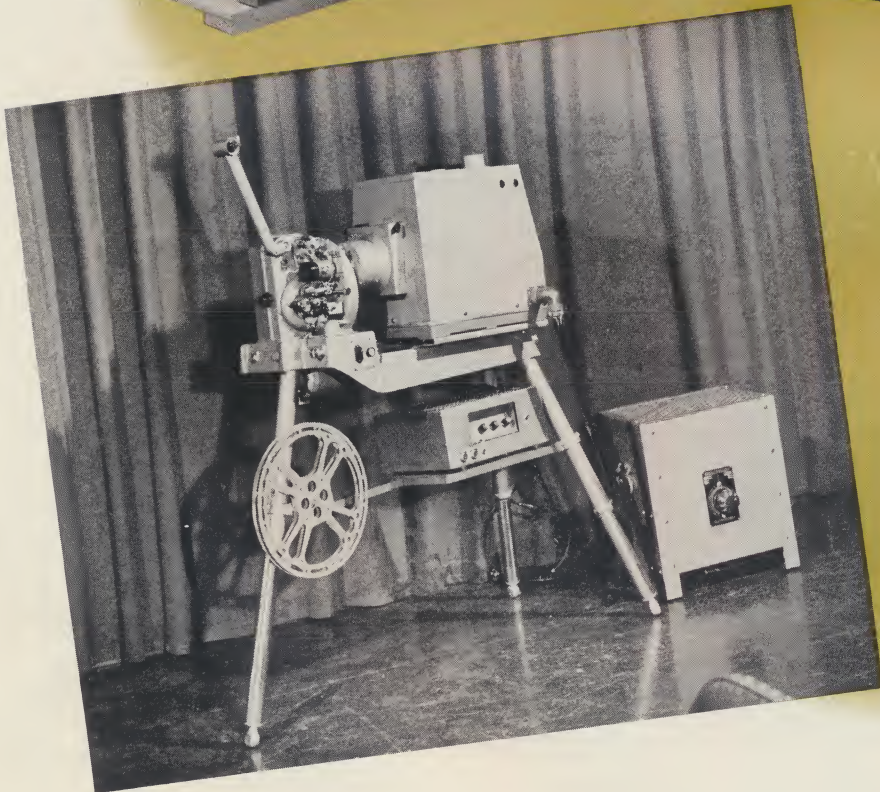
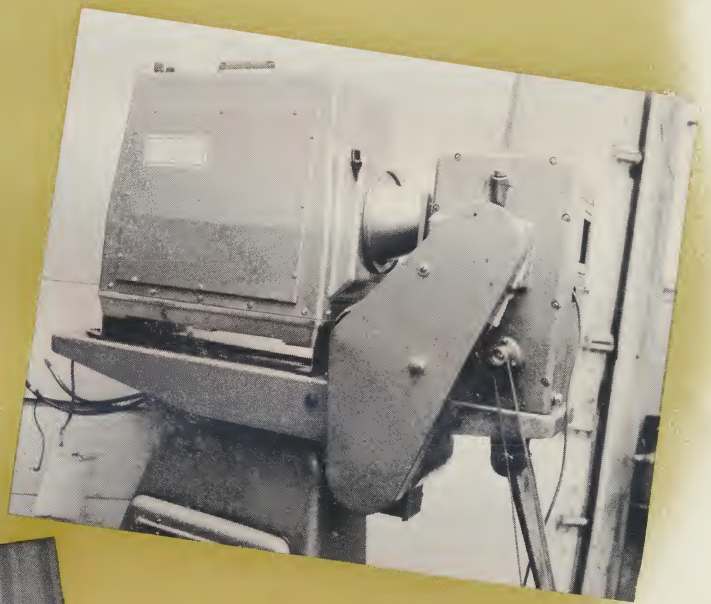
## Single Phase A.C. Transformer-Silicon Rectifier

|                    | 450 WATT           | 900 WATT           | 1600 WATT          |
|--------------------|--------------------|--------------------|--------------------|
| POWER TO RECTIFIER | A.C. VOLTAGE 115   | A.C. VOLTAGE 115   | A.C. VOLTAGE 220   |
|                    | AMPERES 8          | AMPERES 15         | AMPERES 11.2       |
|                    | KW 1.0             | KW 1.7             | KW 1.95            |
|                    | CYCLES 60          | CYCLES 60          | CYCLES 60          |
|                    | PHASE I            | PHASE I            | PHASE I            |
| OUTPUT TO LAMP     | D.C. VOLTS 18-24   | D.C. VOLTS 20-26   | D.C. VOLTS 24-28   |
|                    | D.C. AMPERES 20-28 | D.C. AMPERES 40-48 | D.C. AMPERES 60-70 |
|                    |                    |                    |                    |
| SHIPPING WEIGHT    | 150 POUNDS         | 165 POUNDS         | 190 POUNDS         |





# Typical Installations





# STRONG 16mm MOTION PICTURE PROJECTION EQUIPMENT PRICE LIST

April 1, 1967

## LAMPHOUSES FOR 16mm PROJECTION

### CARBON ARC

| Type  | Model                                                                            | Price<br>Each | Net Each<br>Additional For<br>Export Packing |
|-------|----------------------------------------------------------------------------------|---------------|----------------------------------------------|
| 19600 | STRONG EASTMAN 46 ampere with<br>Tufcold reflector<br>Shipping Weight - 128 lbs. | \$1050.00     | \$15.00                                      |
| 48006 | UNIVARC 30 ampere<br>Shipping Weight - 90 lbs.                                   | 650.00        | 12.00                                        |

### XENON ARC

|          |                                                                                                                                                                                           |         |       |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|
| 76000-CR | X-16, Xenon 1600 watt, 45-75 ampere,<br>30 volt, complete with 14" interference<br>reflector, Specification No. 243, 4"<br>auxiliary reflector, elapsed time meter,<br>ammeter, less bulb | 1295.00 | 30.00 |
| 76001-CR | X-16, Xenon 900 watt, 30-50 ampere,<br>22 volt, complete with 14" interference<br>reflector, Specification No. 242, 4"<br>auxiliary reflector, elapsed time meter,<br>ammeter, less bulb  | 1295.00 | 30.00 |
| 76003    | X-16, Xenon 450 watt, 17-28 ampere,<br>20 volt, complete with 14" silvered<br>reflector, Specification No. 237, 4"<br>auxiliary reflector, elapsed time meter,<br>ammeter, less bulb      | 1170.00 | 30.00 |

X-16 shipping weight approximately 140 lbs.

NOTE: When lamps are to be used for other than regular theatre projection, such as screening rooms, consult factory for special equipment.

### MIGHTY MITE Xenon 16mm Projection systems

|                                                                                                                                                                                                                     |         |       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|
| SINGLE PHASE SYSTEMS, consisting of Type<br>80000, 1600 watt lamphouse, type 79000,<br>1600 watt silicon power supply, 220 volt,<br>60 cycle, single phase, #76171, 1600 watt<br>bulb<br>Shipping Weight - 275 lbs. | 2100.00 | 50.00 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|

April 1, 1967

| Type | Model                                                                                                                                                                                                                      | Price<br>Each | Net Each<br>Additional For<br>Export Packing |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------|
|      | THREE PHASE SYSTEMS, consisting of Type<br>80000, 1600 watt lamphouse, type 79004, 7700 ✓<br>1600 watt silicon power supply, 230 volt,<br>60 cycle, 3 phase, #76171, 1600 watt<br>Xenon bulb<br>Shipping Weight - 365 lbs. | \$2400.00     | \$50.00                                      |

The Mighty Mite lamp will not be sold without an associate power supply. Adapters available for all projectors designed for carbon arc and some designed for incandescent light sources.

For odd voltages and/or cycles, add 5% to the list price of Mighty Mite systems.

#### RECTIFIERS - Tube Type

|       |                                                                            |        |      |
|-------|----------------------------------------------------------------------------|--------|------|
| 16197 | STRONG EASTMAN, 46 amp., single phase,<br>220 volt, 60 cycle, Wt. 200 lbs. | 600.00 | 8.00 |
| 26000 | JUNIOR HIGH, 30 amp., 220 volt, 60<br>cycle, single phase, Wt. 103 lbs.    | 475.00 | 8.00 |

Prices shown less tubes.

#### XENON POWER SUPPLIES

|       |                                                                                                                 |         |       |
|-------|-----------------------------------------------------------------------------------------------------------------|---------|-------|
| 77000 | X-16, 1600 watt silicon, 60-70 ampere,<br>25-27 volts, 230 volt, three phase<br>primary, 60 cycle. Wt. 280 lbs. | 1050.00 | 15.00 |
| 79001 | X-16, 1600 watt silicon, 60-70 ampere,<br>24-28 volts, 230 volt, 60 cycle, single<br>phase. Wt. 190 lbs.        | 900.00  | 15.00 |
| 77001 | X-16, 900 watt silicon, 40-50 ampere,<br>22-24 volts, 230 volts, 60 cycle, three<br>phase primary. Wt. 275 lbs. | 900.00  | 15.00 |
| 77003 | X-16, 450 watt silicon, 20-28 ampere,<br>18-21 volts, 230 volt, 60 cycle, three<br>phase primary. Wt. 250 lbs.  | 750.00  | 15.00 |

Rectifiers for odd voltage and/or cycle, add 10% to the list price. For 25 cycle rectifiers, refer to price and delivery.

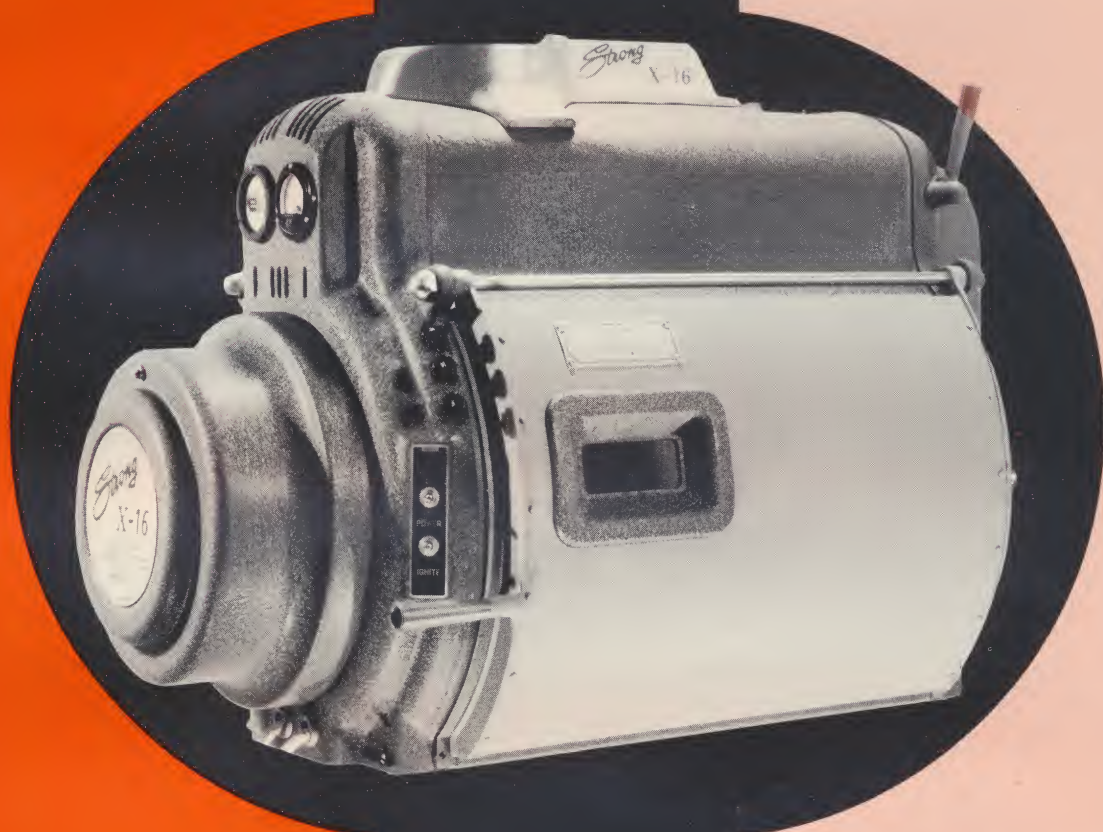
#### XENON BULBS

|       |                |        |
|-------|----------------|--------|
| 76276 | 450 Watt Bulb  | 165.00 |
| 76190 | 900 Watt Bulb  | 231.00 |
| 76171 | 1600 Watt Bulb | 330.00 |
| 76215 | 2500 Watt Bulb | 460.00 |



# The X-16

X  
E  
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O  
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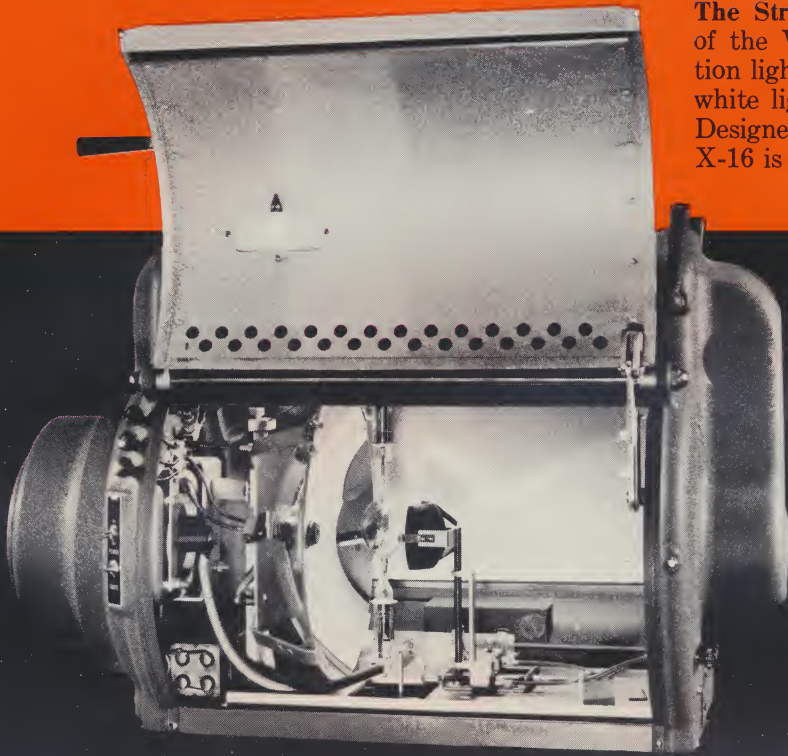
by *Strong*

**a new  
light source  
for**

**16 & 35 mm  
Motion Picture  
Projection**



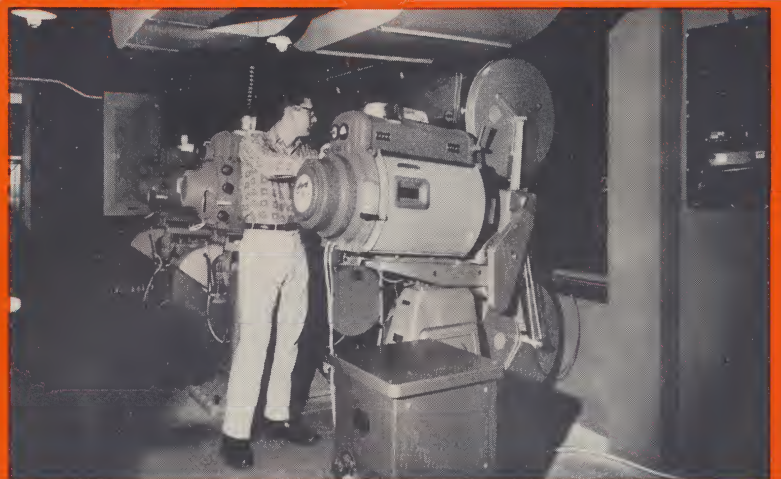
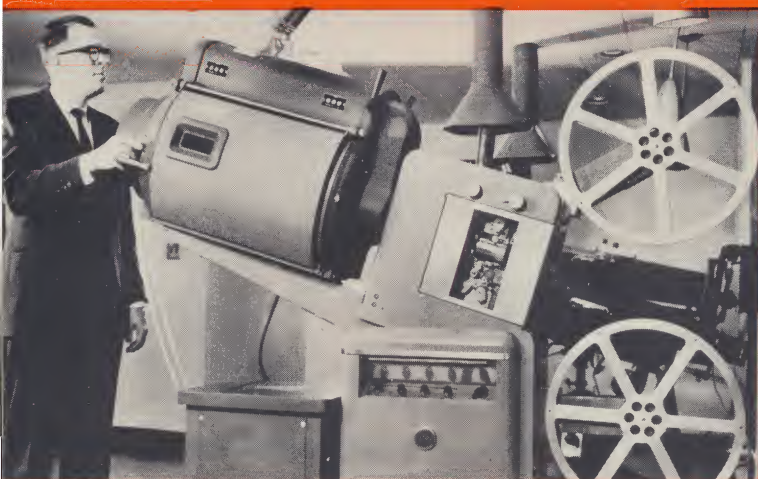
# The *Strong* X-16 XENON



The Strong X-16 Xenon lamphouse, a product of the World's leading motion picture projection lighting manufacturer, produces a uniform white light comparable to carbon arc lighting. Designed for both 16 and 35mm projection the X-16 is available in the following models:

| FILM SIZE | MODEL    | WATT | MATTE SCREEN*  | LUMENS<br>No shutter | LIGHT INTENSITY COMPARES WITH:  |
|-----------|----------|------|----------------|----------------------|---------------------------------|
| 16 mm     | 76003    | 450  | Small size     | 1400                 | 3000 watt mazda                 |
|           | 76001-CR | 900  | up to 17' wide | 3700                 | 30 to 35 Ampere H.I. Carbon Arc |
|           | 76000-CR | 1600 | up to 24' wide | 5500                 | 46 Ampere H.I. Carbon Arc       |
| 35 mm     | 76001    | 900  | up to 19' wide | 4500                 | 30 to 35 Ampere H.I. Carbon Arc |
|           | 76000    | 1600 | up to 32' wide | 9000                 | 46 Ampere H.I. Carbon Arc       |
|           | 76002    | 2500 | up to 36' wide | 12500                | 55 Ampere H.I. Carbon Arc       |

\*Maximum screen size dependent upon screen reflectance and lenses used.



THE *Strong* ELECTRIC CORPORATION  
A Subsidiary of General Precision Equipment Corporation



# ARC LAMP and RECTIFIER

Strong X-16 Xenon projection lamp systems are easy to operate, requiring practically no attention from the operator once the bulb is ignited. Once adjusted this light source provides "pushbutton repeatability" of screen light intensity and color. There are no moving parts such as gears to wear out, no reflector deterioration because of copper drippings and no dirt or soot. The complete absence of dirt assures longer projector life. Xenon cost per hour of operation, bulb and power costs based on 1500 hour guaranteed bulb life (actual life expectancy is over 2000 hours), is about the same as power and carbon costs per hour of a carbon arc lamp-house projecting the same amount of light as the Xenon bulb.

## LAMPHOUSE

Strong X-16 Xenon lamphouses, Type 76000, utilize Osram Xenon bulbs as a light source and are designed to mount on any 35mm and most 16mm projectors presently capable of using carbon arcs. A 14" diameter main reflector and a smaller auxiliary reflector project maximum light from the bulb to the film aperture with a minimum of heat. Strong X-16 lamphouses designed for 16mm projection use Strong Tuf-Cold interference coated main reflectors to reduce heat at the aperture. All Reflector focus controls are located outside the lamphouse for operator convenience.

An ammeter indicates bulb operating current and a time recording meter indicates the actual number of hours each bulb is used. An image of the arc is projected to a viewing screen on the operator's side of lamphouse. A built-in dowsers protects the aperture from heat while the lamphouse is ignited and on standby.

A built in ignitor designed with a protective device to eliminate sound system interference provides correct starting voltage. The bulb is started by turning the on/off switch to "on" position and then pressing the ignition button. These control switches are located conveniently on the back of the lamphouse. Once the bulb is

ignited and the lamphouse is properly focused for best uniformity of field no further attention is required. A safety switch prevents operation of the lamphouse with the door open.

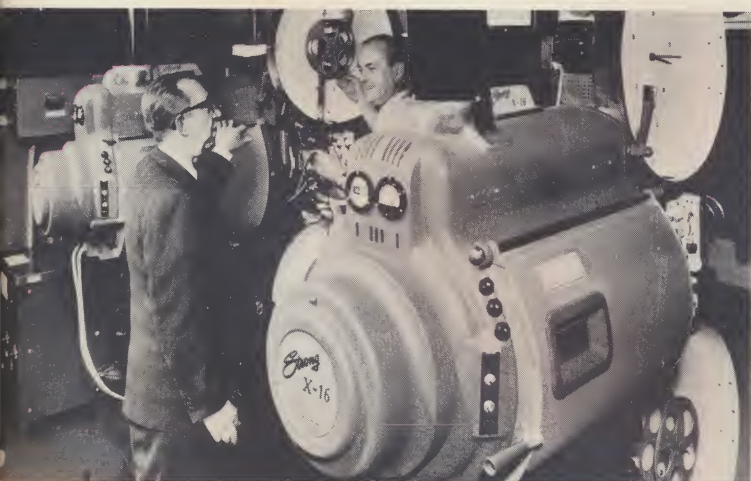
Xenon lamphouses when installed should be vented by ductwork to exhaust outside the building. If this is not possible a Strong Type 23555 Ozone Filter, developed by Strong Electric to eliminate the need for ductwork, is available for installation on X-16 lamphouses.

## LIGHT SOURCE

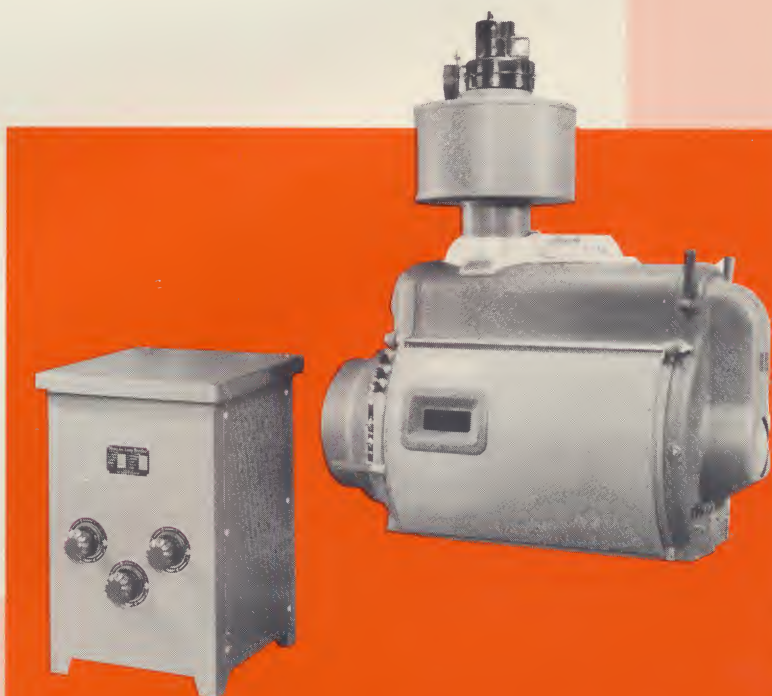
The Osram Xenon bulb is a quartz envelop containing two tungsten electrodes in a pressurized Xenon gas atmosphere. The bulb produces a steady pure white light with daylight color quality (color temperature 6000° Kelvin) resulting in excellent color film projection. The useful life of a bulb will terminate when it can no longer be ignited. The bulb is guaranteed on a prorated basis for 1500 hours with a life expectancy of over 2000 hours. The 1500 hour guarantee is extended by the bulb manufacturer *only* when the bulb is used with an approved power supply.

## POWER SUPPLY

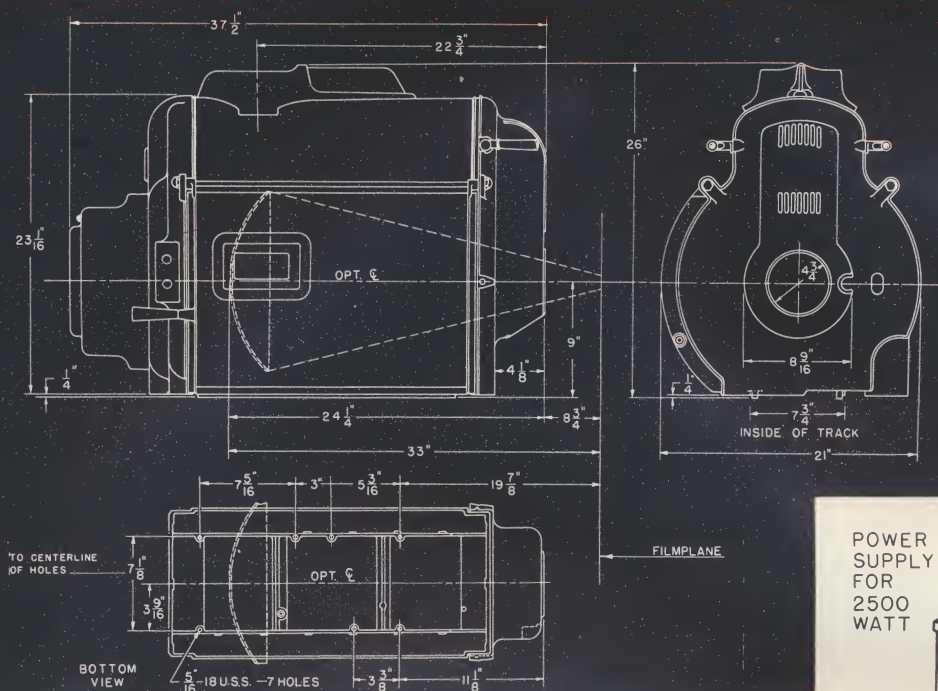
Strong X-16 Type 77000 silicon diode rectifiers are approved for use with Xenon bulbs by the manufacturer of the bulb, under terms of the bulb guarantee. Models are available for each size bulb and are designed to provide correct DC voltage and amperage for optimum bulb operation. Tap changing dial switches are provided to make adjustments for over/under nominal line voltage, even while the bulb is operating. The silicon rectifying element is fan cooled to assure long life. Designed for operating from 230 volt, 3 phase 60 cycle line supply, single phase and other voltages and cycles can be supplied.



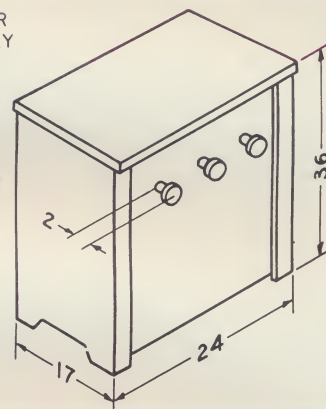
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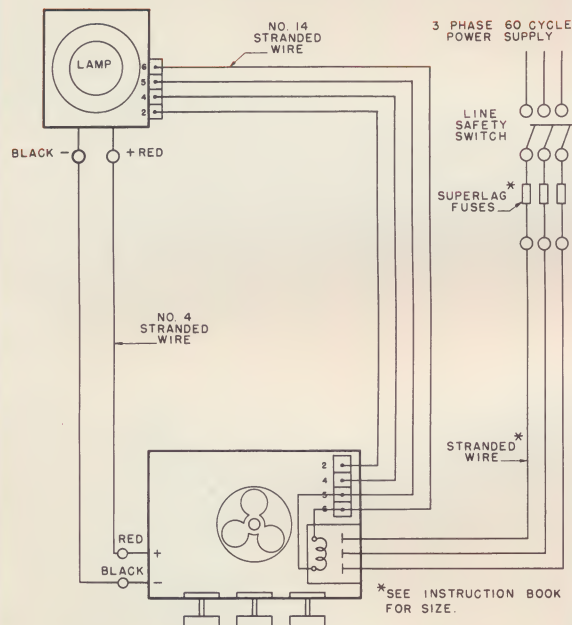




POWER  
SUPPLY  
FOR  
2500  
WATT



WIRING DIAGRAM  
PLATE 2010



FOR 450-900 & 1600 WATT MODELS

#### A.C. LINE AMPERAGE REQUIREMENT FOR 60 CYCLE, 230 VOLTS, 3 PHASE

450 Watt 7.4 Amps. per phase  
900 Watt 12.4 Amps. per phase  
1600 Watt 13.5 Amps. per phase  
2500 Watt 29.0 Amps. per phase

#### SHIPPING WEIGHT

|                         |                    |
|-------------------------|--------------------|
| 450 Watt Lamp 115 lbs.  | Rectifier 265 lbs. |
| 900 Watt Lamp 140 lbs.  | Rectifier 270 lbs. |
| 1600 Watt Lamp 140 lbs. | Rectifier 280 lbs. |
| 2500 Watt Lamp 140 lbs. | Rectifier 310 lbs. |

**SEE YOUR MOTION PICTURE DEALER FOR A DEMONSTRATION  
OR CONTACT THE FACTORY**